

## **INDEX**

<b>ABSTRACT.....</b>	3
<b>RESUMEN.....</b>	5
<b>RESUM .....</b>	7
<b>ABBREVIATION LIST .....</b>	11
<b>1. GENERAL INTRODUCTION.....</b>	13
1.1.1 Seasonal cycle of dormancy.....	15
1.1.2 Environmental and physiological factors.....	16
1.1.3 Economical importance of dormancy .....	18
1.2 Climatic models for dormancy release.....	20
1.3 Common feature between bud and seed dormancy .....	21
1.4 Genetic and molecular aspects of dormancy process.....	22
1.4.1 Genetic studies and mapping of dormancy associated loci.....	22
1.4.2. Molecular aspects of dormancy process. ....	23
1.4.2.1 The Vernalization model in <i>Arabidopsis</i> and cereals .....	23
1.4.2.2 Chromatin modification in vernalization .....	25
1.4.2.3 The dormancy pathway in peach .....	26
1.4.3 Transcriptomic approaches .....	27
1.4.3.1 Genes involved in membrane alterations: cell wall modification and cell expansion ...	29
1.4.3.2 Genes involved in sugar metabolism and carbohydrate catabolism .....	29
1.4.3.3 Proteins related to stress responses and detoxification processes.....	30
1.4.3.4 Biosynthesis of hormones and hormones receptors .....	31
1.4.3.5 Light perception .....	32
1.4.3.6 Cell cycle, division and growth.....	33
1.4.3.7 Transport genes .....	33
1.4.3.8 Regulation of gene expression .....	34
DAM-like transcription factors .....	34
Other transcription factors .....	35
Chromatin regulation .....	35
CBFs.....	36
1.5 Transgenic approaches towards the regulation of bud dormancy.....	36
<b>MAIN OBJECTIVES .....</b>	38

<b>2. Identification of genes associated with bud dormancy release in <i>Prunus persica</i> by suppression subtractive hybridization .....</b>	<b>41</b>
<b>3. Histone modifications and expression of <i>DAM6</i> gene in peach are modulated during bud dormancy release in a cultivar-dependent manner .....</b>	<b>65</b>
<b>4. Gene expression analysis of chilling requirements for flower bud break in peach .....</b>	<b>91</b>
<b>5. Chilling-dependent release of seed and bud dormancy in peach associates to common changes in gene expression .....</b>	<b>105</b>
<b>6. GENERAL DISCUSSION .....</b>	<b>123</b>
<b>7. CONCLUSIONS .....</b>	<b>131</b>
<b>8. REFERENCES.....</b>	<b>135</b>